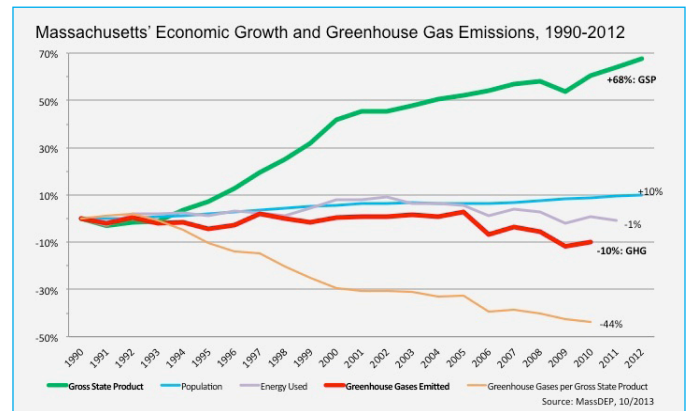




## Massachusetts Leads the Way in Greenhouse Gas Emissions Reduction Efforts; Successful RGGI Program Advocated as Model for Other States

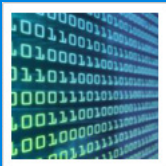
Massachusetts is leading the way to a clean energy economy and reaping some of the direct benefits in economic growth through smart policies that reduce greenhouse gas emissions by promoting greater energy efficiency, developing renewable energy and encouraging other alternatives to the combustion of



fossil fuels. The results clearly disprove the myth that environmental protection hinders economic progress.

The Commonwealth's success in addressing Climate Change can be seen in a number of areas, such as the implementation of the Regional Greenhouse Gas Initiative (RGGI) and the reduction of its carbon dioxide (CO<sub>2</sub>) emission cap to 91 million tons per year. All nine RGGI states have now implemented the new emissions cap and are gearing up for the next CO<sub>2</sub> allowance auction in March. It is estimated that under RGGI, CO<sub>2</sub> emissions will be reduced by 45 percent in 2020 compared to 2005 levels.

MassDEP and its eight RGGI partners are also advocating that the successful RGGI program is an excellent model to control power plant greenhouse gas (GHG) as the U.S. Environmental Protection Agency (EPA) works on a proposal to reduce GHG emissions from existing power plants across the nation.



**EIPAS Information Technology Transformation Reaches Two Significant Milestones on Way to 2014 Project Initiation**



**Proposed Food Waste Ban Will Support Anaerobic Digestion and Tap into a Hidden Source of Energy**



**MassDEP Sets Sustainability Standard with LEED Platinum Designation for Wall Experiment Station in Lawrence**



**Massachusetts Supports Programs to Increase Use of Electric Cars and Alt-Technology Vehicles and New Charging Infrastructure**



**Patrick Administration Awards \$2.4M in Grants to Increase Recycling, Diversion and Reuse of Solid Waste**



The proceeds from the RGGI allowance auctions have totaled \$252 million for Massachusetts to date, and the reinvestment of a majority of those funds has helped to make Massachusetts the most energy efficient state in the nation during the past three years, as selected by the American Council on an Energy Efficient Economy. With the reduced RGGI cap and the anticipated increase in the allowance price moving forward, Massachusetts can anticipate an additional \$625 million in proceeds for reinvestment in energy efficiency and renewable energy by 2020.

## The Success of RGGI

RGGI is the first cap-and-invest program in the United States - it caps GHG emissions from the power sector and reduces those emissions by 2.5 percent a year until 2020. The states participating then invest the proceeds generated from auctioning emission allowances back into clean energy programs, which lower overall energy costs and grow local economies.

Within RGGI, Massachusetts has been a leader in energy efficiency. During the first three years of the program, Massachusetts was among the states that invested a great deal of its allowance auction revenues back into energy efficiency. The state is saving energy every year with new energy efficiency investments and programs for residents and municipalities and continues to embrace efficiency as its "First Fuel."

These diverse programs have saved enough electricity to power nearly 110,000 homes for a year and enough natural gas to heat 15,000 homes for a year. Energy efficiency has reduced greenhouse gas emissions by more than 430,000 metric tons - the equivalent

of taking approximately 85,000 cars off Massachusetts' roads for a whole year. For every \$1 invested in energy efficiency, the average benefit for homeowners was \$4.17 and for businesses it was \$5.10. According to a report by The Analysis Group, reinvestment of allowance revenues stands out as the most economically beneficial use of RGGI dollars and Massachusetts has led the way in this effort.

The EPA is in the process of proposing new regulations to reduce CO2 emissions at power plants across the nation. The RGGI states recently submitted comments to the EPA, recommending that RGGI be used as the national model when EPA implements its carbon reduction rules because RGGI has a proven track record of reducing emissions. RGGI has also created thousands of clean-tech jobs, reduced energy bill by more than \$1 billion and added a net of \$1.6 billion to the economies of the RGGI states.

## New Chairman of the RGGI Board

As the calendar turns to 2014, MassDEP Commissioner Ken Kimmell has taken over as the new chairman of the RGGI, Inc. Board of Directors, and he is focused on advocating that regional cap-and-trade programs such as RGGI should be embraced by the EPA and states as a cost-effective and easy-to-administer program to cut power plant greenhouse gas emissions.

"I'm excited to serve as the new chairman and I look forward to building on RGGI's success with the other members of the board of directors," Commissioner Kimmell said. "RGGI serves as a model for the U.S. EPA, as it considers new rules to cut carbon emissions from power plants, and for other states that



want to use market mechanisms to lower their greenhouse gases. The RGGI states will play a leading role in showing EPA how a cap-and-trade program can cost-effectively get this job done.”

The states involved in RGGI are demonstrating that environmental protection can go hand-in-hand with economic development and job creation. For more information about RGGI, go to: <http://www.mass.gov/eea/agencies/massdep/air/climate/rggi-frequently-asked-questions.html>.

## GWSA Background

In 2008, Governor Deval Patrick signed the Global Warming Solutions Act (GWSA) into law. It established the most ambitious, economy-wide greenhouse gas emission limits for any state in the country and made Massachusetts one of the first states in the nation to move forward with a comprehensive regulatory program to address Climate Change. The GWSA requires all sectors of the economy to reach a 25 percent reduction of GHGs below 1990 levels by 2020 and an 80 percent reduction by 2050. The path to reach those ambitious goals is outlined in the Massachusetts Clean Energy and Climate Plan for 2020. For more information about the Clean Energy and Climate Plan, go to: <http://www.mass.gov/eea/air-water-climate-change/climate-change/mass-clean-energy-and-climate-plan.html>.

Since the creation of the GWSA, Massachusetts has already reduced its GHG emissions by approximately 10 percent as of 2010, with much greater reductions coming as the new RGGI cap kicks in this year and energy efficiency efforts expand. In addition, Massachusetts has dramatically boosted its renewable energy generation. Due to

financial incentives such as renewable energy credits, net metering and long-term contracts, solar energy capacity has grown from 1.64 megawatts (MW) in 2007 to 327 MW in 2013, reaching Governor Patrick’s goal of 250 MW four years ahead of schedule. Wind energy has grown from 1.64 MW to 103 MW in this same time frame, and Massachusetts is vigorously pursuing other clean energy solutions, such as combined heat and power, as well as converting food waste to energy through anaerobic digestion (see related story). For more information on our progress in meeting our 2020 goal, please see the five-year review, which can be viewed here: <http://www.mass.gov/eea/docs/eea/gwsa/ma-gwsa-5yr-progress-report-1-6-14.pdf>.

## The GWSA Dashboard

In addition, the Executive Office of Energy and Environmental Affairs (EEA) recently launched a new Global Warming Solutions Act “Dashboard” - a user-friendly web site to raise public awareness on the status of GWSA implementation. The dashboard provides an estimate of emission reductions achieved to date, and also includes an overview of emissions trends in the state and updated information about each of the strategies included in the Clean Energy and Climate Plan for 2020.

“The new dashboard will communicate the Commonwealth’s progress towards reducing our greenhouse gas emissions and help us shape future GHG reduction policies,” said EEA Secretary Rick Sullivan. “It’s also a great tool to engage the citizens of the Commonwealth so they can monitor, measure and contribute to our work toward meeting the GWSA goals for 2020 and beyond.”



The system is one of the first of its kind nationwide and is expected to serve as a regional and national model that other states can adopt to analyze their efforts in reducing GHG emissions. You can visit the dashboard here: <http://www.mass.gov/eea/air-water-climate-change/climate-change/massachusetts-global-warming-solutions-act/global-warming-solutions-act-dashboard.html>

## Growing the Clean Energy Economy

Thanks to all of the state's efforts, the Commonwealth's clean energy industry is growing rapidly. Surveys by the Clean Energy Center show that there was an increase in clean energy jobs of 11.8 percent in 2013 and now nearly 80,000 people are working in the clean energy industry in Massachusetts. Since 2011, this growth has outpaced all other sectors of the state's economy. Clean energy continues to maintain its place as one of the Commonwealth's marquee industries with 1.9 percent of the total Massachusetts work force.

## EIPAS Information Technology Transformation Reaches Two Significant Milestones on Way to 2014 Project Initiation

Two significant milestones were completed recently for MassDEP's across-the-board overhaul of the agency's information technology (IT) systems. The project, known as the Energy and Environmental Information and Public Access System (EIPAS), is a top

priority for MassDEP and the Executive Office of Energy and Environmental Affairs (EEA).

The EIPAS project is critical to MassDEP's ongoing effectiveness as the agency's outdated and "siloed" information technology systems impede it from fulfilling its critical mission of protecting public health and the Commonwealth's natural resources.

The first milestone was contained in the Commonwealth's fiscal year 2014 capital plan. In the plan, EIPAS was identified and funded as an official project for the Patrick Administration. Obtaining the funding for EIPAS is a critical step for the project to move forward.

The second milestone achieved is that the EIPAS Request for Response (RFR) was released in December. The RFR is the culmination of many months of collaborative effort by staff across the EEA secretariat, including MassDEP. The RFR is a comprehensive document describing a five-year effort to transform the Secretariat's information management activities. EEA is scheduled to receive RFR responses from interested consultants on February 24th and a vendor is expected to be hired by early summer. The estimated value of the RFR is \$30 million.

EIPAS will provide significant benefit to all of the EEA agencies. Currently, EEA agencies are unable to share information efficiently and effectively as is necessary in today's world where information exchange is not only expected but required. EIPAS will enable all the EEA agencies to share a common technology platform, which will facilitate sharing of critical energy and environmental information.





However, EIPAS is not simply a refresh of EEA's technology infrastructure. MassDEP will adopt a new way of doing business, utilizing technology to optimize the Department's resources while providing the tools to facilitate permitting at the speed of business, making the best strategic decisions on environmental enforcement, and sharing data with other agencies, the business community and members of the public.

EIPAS is part of a three-pronged reform effort underway at MassDEP that also includes regulatory streamlining and internal reorganization. Prior to the hiring of a vendor for EIPAS, MassDEP is taking steps to prepare for the project ahead. MassDEP is undergoing a comprehensive data-standards initiative, which will result in standard definitions of key data elements, an effort critical for MassDEP to ensure it can share information effectively in the future. MassDEP has been working to standardize and align agency work practices across programs and locations prior to beginning system development. This work, referred to as "Agency Process Optimization," will help the agency maximize the benefits from the new EIPAS system.

When fully implemented, EIPAS will replace many of the complex information technology systems currently in use. The EIPAS project has identified permitting, a regulated entity portal and online portal as key implementation areas to be addressed early in the project.

When EIPAS is fully implemented, MassDEP, its constituents and partners will see:

- Reduced uncertainty and time to businesses for permitting;
- Improved stewardship of the Commonwealth's environmental resources through faster violation identification,

increased compliance rates and decreased time to compliance through utilization of rules-based processing;

- MassDEP staff time more effectively utilized by using technology;
- Increased transparency and civic engagement through online portals;
- Enhanced collaborations with other agencies and municipalities through information-sharing opportunities;
- Improved revenue collections; and
- Continuing benefits from technology investment and the ability to respond to business changes.

## Proposed Food Waste Ban Will Support Anaerobic Digestion and Tap into a Hidden Source of Energy

In 2014, the Patrick Administration will kick into high gear its plan to tap into the hidden energy value of food waste and organics. The goal is to divert 450,000 tons of food waste a year from landfills and incinerators, and direct that material to composting facilities or anaerobic digesters, which convert food waste into a biogas that can be used for heat and electricity. This plan, which has gained international recognition, will cut greenhouse gases, lower disposal costs and preserve scarce landfill space across Massachusetts.

One major way to achieve this goal is to add food waste and organics to the list of banned materials at landfills and incinerators. This ban, which will apply to large food waste generators, is poised to go into effect in late 2014, and it will send an unmistakable signal to private companies to invest in alternative facilities, such as digesters.



*Culling food at a supermarket.*

To help harness this untapped energy from organic waste, the Patrick Administration has also made \$3 million in low-interest loans available to private companies building anaerobic digestion (AD) facilities. The low-interest loans will be administered by BCD Capital through MassDEP's Recycling Loan Fund, with monies provided by the Department of Energy Resources (DOER).

DOER is also making \$1 million available in grants for anaerobic digestion to public entities through MassDEP's Sustainable Materials Recovery Grant Program. MassDEP and DOER have awarded the first AD grant of \$100,000 to the Massachusetts Water Resources Agency (MWRA) for its wastewater treatment plant at Deer Island. The MWRA currently digests sludge in 12 large chambers to help run the plant. A pilot

project will introduce food waste into one of the chambers to determine the effects of co-digestion on operations and biogas production.

In the wake of receiving this grant, the MWRA has already selected a hauler, which will prepare and provide mixed commercial food waste feedstock to the MWRA for delivery via tanker trucks to the Deer Island facility during the pilot program. The pilot program, which will accept between 50 and 100 tons per day of commercial food waste, will use just one of the MWRA's 'egg' digesters that are a visible hallmark on the Winthrop shore. If successful they will expand it to their other digester units, so that the full-scale project could take several hundred tons per day.

Currently, the MWRA's schedule calls for beginning to accept this material for the pilot program in July 2014. The benefits will include increased gas (and therefore energy) generation, improved wastewater residuals management, and a cost-effective solution for businesses and institutions that are looking to divert food waste from disposal to comply with Massachusetts' proposed commercial food waste disposal ban.

UMass-Amherst, meanwhile, has spurred construction of an anaerobic digester at its facility's wastewater treatment plant. This plant could handle sludge from the treatment facility, but also take in food waste from the campus and nearby towns, and deliver clean, renewable energy back to campus. The university has completed the feasibility study and is now taking comments on the development study from the surrounding community and the university. Once those tasks have been received and reviewed, a request for proposals will follow.



In addition, feasibility studies have been done at two Massachusetts Department of Corrections facilities in Shirley and Norfolk. The Division of Capital Asset Management and Maintenance (DCAMM) has issued a request for information for both of these facilities and seven responses so far have been received from developers interested in pursuing the construction of anaerobic digesters on this state-owned land. The issuance of a request for proposals is expected soon.

Massachusetts wastewater treatment plants have been using AD since the 1940s to reduce solids that would otherwise go to landfills or incinerators. The process was initially seen as a way to reduce pathogens to make the solids safe for application to the land as a fertilizer. In addition to wastewater treatment plants, AD with combined heat and power has applications on farms, at industrial and food processing facilities, and at stand-alone organics recycling centers.

In the private sector, Jordan Dairy Farm in Rutland is a fifth-generation, family-owned and -operated farm with 300 milking cows. In 2010, Jordan Dairy joined four other Massachusetts farms to form AGreen Energy LLC, a partnership designed to enable the farms' transition to more sustainable manure management practices. All five farms plan to adopt anaerobic digestion technology with combined heat and power (CHP) conversion units to transform manure into renewable energy. Jordan Farms is also now accepting food waste into its digester and increasing the production of useable biogas.

Also, Pine Island Farm in Sheffield is a family-owned and -operated dairy farm in Berkshire County that sits on 1,300 acres of cropland and houses approximately 1,000

head of Holstein cattle. In November 2011, the farm started using the cow manure as feedstock for its new anaerobic digester with a CHP energy system. Today, the digester has electrical generation capacity of 225 kilowatts, and the farm's organics-to-energy conversion system generated more than 1.1 million kilowatt hours (kWh) of renewable electricity in its first eight months of operation. The energy produced covers all of the farm's electricity use, helps heat its water, and runs the digester equipment. This still enables the farm to sell power back to the grid. For Pine Island Farm, AD technology has multiple benefits: it enables a more sustainable practice for manure management that also generates renewable power and it cuts greenhouse gas emissions. In addition, Pine Island Farm uses the liquid digestate, which is a residue of the digestion process, for fertilizer and has reported large gains in crop productivity as a result.

AD with CHP is already being used widely in Europe for waste reduction, but increasingly, as a means of renewable energy production. Biogas production plays a significant role in the clean energy production in Europe. With the ability to turn organic waste into a gas that can be used to produce electricity and thermal energy (heat), anaerobic digestion is an increasingly important technology in the Commonwealth's renewable energy portfolio.

AD can also play an important role in diverting some of the organic waste disposed of in landfills across the Commonwealth, thereby reducing landfill methane emissions (a potent greenhouse gas) and mitigating the need for landfill expansions. After decades of successful use – in Massachusetts, the United States and around the world – plus recent technical advances, there is growing interest



in AD as an alternative to conventional power generation.

The Massachusetts plan has been hailed internationally. The Economist Magazine chose to highlight the Commonwealth's plan in its "The World in 2014" issue (<http://www.economist.com/news/21589122-massachusetts-leading-way-recycling-organic-waste-waste-not-want-not>). And the American Biogas Council (ABC) announced in November 2013 that MassDEP Commissioner Kenneth Kimmell is the recipient of its Champion Award. ABC stated: "The ABC bestows this award on public servants who, through their words as well as actions, promote public policies that enable biogas and anaerobic digestion to realize their potential as a major source of renewable energy in our society."

ABC Board of Directors Chairman Wayne Davis lauded Commissioner Kimmell in moving the Commonwealth forward with policies that are both consistent in environmentally beneficial ways and economically sound: "What I have learned over the past couple of years, is that this Commissioner is a guy who gets it. He runs his Department in a way that encourages the staff not only to solicit public input on critical issues, but to shape policy and regulations that balance achievement of aggressive goals around environmental protection and sustainability with practical considerations of economic costs and burdens."

For more information about the food waste ban and anaerobic digestion program updates, go to: <http://www.mass.gov/eea/agencies/massdep/service/energy/anaerobic-digestion/>.

## MassDEP Sets Sustainability Standard with LEED Platinum Designation for Wall Experiment Station in Lawrence



*An architectural rendering of the recently renovated Senator William X. Wall Experiment Station in Lawrence.*

MassDEP recently led the way in environmental sustainability when it was announced that the renovated Senator William X. Wall Experiment Station in Lawrence had earned the Commonwealth's first Leadership in Energy and Environmental Design (LEED) Platinum certification for a state facility. LEED Platinum is the highest possible designation, and the lab is one of only a handful of LEED Platinum-certified labs operating around the world today.

In 2011, a \$30 million upgrade transformed the environmental laboratory into a state-of-the-art "green" building that is able to handle the complex testing protocols required by today's environmental laboratory sciences.

During the LEED Platinum announcement held at the facility, MassDEP Commissioner Kenneth Kimmell said the designation shows





that the agency and its lab “walk the walk” when it comes to sustainable development. “With its solar panels, rain-water recycling and electric-vehicle charging stations, this laboratory is a model for other facilities yet to come,” Kimmell said.

Other LEED Platinum updates include: use of rain gardens and detention basins for better stormwater management, water-efficient landscaping, optimized energy savings designed to reduce energy use by 21 percent, and windows that allow daylight into 75 percent of the space.

The Wall Experiment Station is Massachusetts’ principal drinking water laboratory. At the facility, 15,000 lab analyses of contaminants in water, wastewater, air, soil, hazardous waste, fish and other samples are performed annually. There are currently 29 LEED-certified buildings in the state portfolio of buildings, 28 of which were certified since Governor Patrick took office.

For more information on the Wall Experiment Station and its LEED Platinum certification, go to: <http://www.mass.gov/eea/agencies/massdep/news/releases/first-leed-certification-at-state-facility-massdep.html>.

The Wall Experiment Station also recently earned a 2013 Leading By Example Award from the Patrick Administration for its LEED Platinum designation.

In 2007, Governor Patrick established the Leading By Example Awards, directing state agencies to improve energy efficiency, promote clean-energy technology and reduce their environmental impacts. This effort calls on state government to reduce greenhouse gas emissions by 25 percent and reduce

energy consumption at state-owned and leased facilities by 20 percent.

The programs efforts have resulted in an increase in the amount of installed solar at state facilities from 100 kW in 2007 to more than 7 MW in 2013 and an increase in the amount of installed wind at state facilities from 660 kW in 2007 to nearly 11 MW in 2013.

For more information on the Leading By Example Awards and the Commonwealth’s efforts to significantly reduce energy use and greenhouse gas emissions while increasing recycling and renewable energy implementation, go to: <http://www.mass.gov/eea/pr-2013/energy-enviro-initiatives.html>.



*Shown (l-r) with the LEED Platinum plaque are: Franklin Fernandez of Rep. Marcos Dever’s office; U.S. EPA New England Lab Director Art Johnston; DOER Lead By Example Program Director Eric Friedman; MassDEP Commissioner Kenneth Kimmell; WES Lab Director Oscar Pancorbo; DCAMM Director Hope Davis; U.S. Green Building Council Massachusetts Chapter Executive Director Grey Lee; and Rep. Frank Moran.*



## Massachusetts Supports Programs to Increase Use of Electric Cars and Alt-Technology Vehicles and New Charging Infrastructure

The Patrick Administration and state environmental officials are committed to reducing greenhouse gas emissions, bolstering Massachusetts' energy independence and growing the Commonwealth's clean energy economy, and recent announcements have helped the Administration get closer to those ambitious goals.

The Commonwealth is among states leading the way with the adoption of zero-emission and alternative-technology vehicles and vehicle-charging infrastructure. Zero-emission vehicles (ZEVs) include battery-electric vehicles, plug-in hybrid-electric vehicles and hydrogen fuel-cell-electric vehicles. These technologies can be used in passenger cars, trucks and transit buses.



*MassDEP and EEA went to the City of Beverly recently to announce \$555,000 in grants to help communities acquire electric vehicles. Shown at an electric "Smart Car" outside of Beverly City Hall are: (l-r) EEA Assistant Secretary for the Environment Maeve Vallely Bartlett, Beverly Mayor William Scanlon Jr., and MassDEP Commissioner Kenneth Kimmell.*

A number of programs are now being implemented through the Executive Office of Energy and Environmental Affairs (EEA), the Massachusetts Department of Environmental Protection (MassDEP), and the Department of Energy Resources (DOER).

In October, governors from eight states, including Massachusetts, announced a ground-breaking initiative to put 3.3 million zero-emission vehicles on the roads in their states by 2025. These governors, including Gov. Patrick, joined forces to help revolutionize the automobile market by promoting zero-emissions vehicles (or ZEVs).

Massachusetts joined California, Connecticut, Maryland, New York, Oregon, Rhode Island and Vermont in the effort to expand consumer awareness and demand for ZEVs, and to identify specific actions they will promote to help build a robust national market for electric- and hydrogen-powered cars. Those efforts include making it easier to construct new electric vehicle (EV) charging stations, putting more ZEVs in state fleets, and developing common standards for roadway signs and charging stations. For more information on this agreement, go to: <http://www.mass.gov/eea/agencies/massdep/news/releases/governors-initiative-to-put-3-3-m-zevs-on-road-by-2025.html>.

U.S. electric cars sales in 2012 more than tripled to about 52,000 from 17,000 in 2011, and motorists bought more than 40,000 plug-in cars in the first and second quarters of 2013. In Massachusetts, there are nearly 3,000 EVs on the road, and the target by 2025 under this eight-state agreement is 307,000 vehicles.

In order to start meeting that ambitious goal, Massachusetts recently awarded grants



and announced new investments in three programs to support alternative-fuel vehicles and related infrastructure.



*An electric vehicle charging.*

The Massachusetts Electric Vehicle Incentive Program (MassEVIP) is making up to \$2.5 million available in grants to offset the cost of acquiring battery-electric and plug-in hybrid EVs and dual-head charging stations. MassDEP recently awarded \$555,000 in grants to 20 municipalities to acquire 47 EVs and install 17 electric charging stations, which will be available to the public. MassDEP also announced that up to \$2 million is still available under MassEVIP round two, which will award grants to cities and towns, public colleges and universities, the state fleet and private car-sharing services (such as Zipcar) to assist with the purchase of EVs and charging station infrastructure. Those grants are expected to be awarded in the spring.

EEA and DOER also recently announced that up to \$11.7 million is available through the Clean Vehicle Project to further promote the adoption of EVs, install more charging stations and replace or convert more than 200 public and private fleet vehicles currently powered by gasoline or diesel with vehicles fueled by natural gas, propane, electricity, solar-electric and hybrid technologies. The program is administered by DOER.

DOER is also providing an additional \$1.8 million in grants for eight electric school buses with vehicle-to grid capability as part of the Clinton Global Initiative's EV V2G School Bus Demonstration project. Electric school buses have energy storage capability and can serve as back-up energy resources during natural disasters and similar events.

For more information on these three electric- and alt-vehicle programs, go to: <http://www.mass.gov/eea/agencies/massdep/news/releases/grants-in-alternative-fuel-vehicles-announced-.html>.

## Patrick Administration Awards Grants to Increase Recycling, Diversion and Reuse of Solid Waste

Many communities and regional groups in Massachusetts received an additional but welcomed surprise on October 31, 2013. Not only did the Bay State welcome another World Series victory celebration on this, the day perennially set aside for Halloween, but the Patrick Administration announced a total of \$2.47 million in grants to be dispensed among 136 cities, towns, regional groups and non-profit organizations to assist them in efforts to increase the diversion, reuse, composting and recycling of materials in the solid waste stream.

These competitive grants are funded through the Sustainable Materials Recovery Program (SMRP). The SMRP offers funding for activities that will reduce the amount of waste disposed in landfills and incinerators. Waste prevention and recycling reduce greenhouse gas emissions by cutting methane production



in landfills, thereby saving energy and increasing forest carbon sequestration.



*Funds have been awarded in several categories, including wheeled carts for curbside collection of recyclables.*

Funds have been awarded in several categories, including: start-up incentives for Pay-As-You-Throw programs; wheeled carts for curbside collection of recyclables and kitchen food waste for composting; large containers for collection of target materials at municipal transfer stations; funding for local recycling enforcement coordinators; school recycling assistance programs; organics capacity building projects; innovative waste reduction projects and small-scale initiatives.

An alphabetical list of the cities, towns, regional groups and non-profit organizations that have been conditionally awarded grants can be seen here: <http://www.mass.gov/eea/docs/dep/recycle/reduce/m-thru-x/smrp2013.pdf>.

Two of the SMRP grants support the Massachusetts Department of Environmental Protection's (MassDEP) Organics Action Plan (featured in this newsletter), which calls for the diversion of 450,000 tons of food and other organic materials a year from the solid waste stream. Grants for the Town of Manchester (\$44,998) and the City of Salem

(\$30,750) will help implement curbside residential food waste collection programs.

Another grant of \$56,000 is targeted for the City of Newton to implement a pilot curbside residential organics collection program to gather data from 600 households on tonnage, participation and cost to install the program city-wide. An additional \$30,000 grant has also been awarded to the towns of Randolph, Braintree, Milton and Weymouth to explore the feasibility of placing a regional composting facility on state-owned land in Randolph.

"With approximately 25 percent of our waste stream made up of food waste and organics, we need to pull that material out of landfills and incinerators and compost it or generate clean energy through anaerobic digestion," MassDEP Commissioner Ken Kimmell said. "When we tap into the hidden energy value of food waste, we reduce local governments' costs of waste disposal, cut air emissions and harness innovative new energy sources."

Other innovative projects funded by the SMRP grants include a plan by the non-profit Wish Project of Lowell (\$50,000) to use a heat treatment process to sterilize used mattresses from hotels and other institutions and re-distribute them through social service agencies to those in need. Another involves a \$100,000 grant for the Town of Eastham to upgrade its transfer station to provide a location for private trash haulers operating on Cape Cod to drop off their single-stream recyclables, making recycling more cost-efficient for haulers and businesses.

During this SMRP funding round, a total of \$535,905 has been allocated for eight conditional grants that communities can use





to implement a Pay-As-You-Throw (PAYT) type system for curbside trash collection. The grants will be disbursed to assist with start-up costs, such as producing public education materials, and purchasing PAYT bags and recycling bins.

Thirteen communities were awarded a total of \$1,239,422 in SMRP grants for the purchase of wheeled carts for the implementation or expansion of curbside single-stream recycling. The grant provides a \$10- or \$15-per-cart subsidy for the purchase of carts 65 gallons or larger. Carts make recycling more convenient for residents, producing higher recycling rates and less trash.

Ten communities will receive a total of \$81,269 to expand their recycling programs to collect targeted materials at municipal recycling drop-off or transfer stations. Grants are for the purchase of roll-offs or compactors for the collection of source-separated wood, carpet, “rigid bulky” plastics, mattresses, clean gypsum and source-separated food waste.

Four communities are expected to receive a total of \$85,000 to support the hiring of local waste reduction enforcement coordinators to assist in enforcing mandatory recycling, compliance with single-stream recycling or compliance with existing pay-as-you-throw programs.

Four local school districts are expected to receive a total of \$52,601 as part of the school recycling assistance program in order to implement or expand recycling of paper, cardboard, bottles and cans in all schools within the district.

Another 96 municipalities are eligible for \$96,000 in grants - ranging from \$500 for communities under 5,000 residents up to \$2,000 for communities larger than 50,000 residents - to purchase items such as recycling outreach and educational materials, compost bins, outdoor event recycling containers, paper shredders for residential and small-business use, household hazardous waste collection efforts and rain barrel and kitchen scrap bucket programs.

There are a number of grants under the title of “Targeted Small Scale Initiatives,” which mean those that involve a set amount for funding of materials and services that will sustain existing municipal waste reduction programs such as educational materials, public space recycling containers, compost bins, and other small investments that reduce solid waste or increase recycling.

## EnviroMatters eNews Briefs

### MassDEP’s Regulatory Reform: Sweeping Array of Regulation Changes on Streamlining Improvements to be Promulgated in Next Three Months

MassDEP is on the home stretch of its Regulatory Reform Initiative, with final regulations being promulgated in early 2014 that will simplify, streamline and improve many of the agency’s programs,



while maintaining the same or better environmental protection. In 2011, MassDEP launched a major initiative to look for possible improvements to all of the agency's regulatory areas. After working closely with external stakeholders and going through the public comment process, these across-the-board reforms are now being finalized and published as final regulations. The last of the regulation changes will be promulgated by April 2014.

Commissioner Kenneth Kimmell kicked off MassDEP's Regulatory Reform Initiative with the goal of maintaining the agency's current high standards of environmental protection with a drastically reduced present level of staff (which dropped more than 30 percent since 2002). MassDEP's Regulatory Reform Initiative was also a mechanism for reviewing existing regulations to identify efficiency improvements as required of all state agencies under the Economic Development Reorganization Act of 2010.

The resulting programmatic changes, which are now being codified into final regulations, will achieve efficiencies without sacrificing environmental standards by disinvesting from low-value activities, relying on other regulatory entities where redundant oversight currently exists, and utilizing authorized third parties rather than agency resources. The regulatory changes, which began to be promulgated in December 2013, include improvements to the following MassDEP programs: waste site cleanups/MCP; public waterfront protection/Chapter 91; wetlands; wastewater permitting; septic systems/Title 5; solid waste transfer stations and landfills; asbestos abatement; and clean energy projects.

Anyone can sign up to receive notice of MassDEP's proposed and final regulation changes, including those associated with the Regulatory Reform Initiative, at the following link: <http://www.mass.gov/eea/agencies/massdep/service/online/sign-up-for-updates.html>.

## Charged-up for Solar-on-Landfill Energy Projects

A key Patrick Administration environmental priority is the generation of more renewable energy at old landfills and contaminated parcels. Successes abound, and are continuing as MassDEP enters 2014.

The Clean Energy Results Program (CERP) was launched in November of 2011, and the Patrick Administration set very aggressive targets for renewable energy. For instance, on environmentally challenged properties like landfills and Brownfields, the initial goal was to develop 50 megawatts of clean energy by 2020, but that goal is expect to be surpassed soon.

In the past few years, MassDEP has approved 42 projects that would place more than 83 megawatts of solar or wind on top of closed landfills across the state; 15 of those projects (13 solar, 2 wind) are already operating. Those operating projects are currently producing 23.6 megawatts of renewable energy. Now, the Commonwealth adds to that with the energy being produced by the newly installed solar arrays in Marshfield and Sudbury, and with the fact that another eight projects are either under construction or close to completion. And recently, MassDEP announced that another three solar-on-landfill projects were approved on Cape



Cod and the Islands - in Provincetown, West Tisbury and Orleans.

As a result of this success, the Patrick Administration has increased its solar development targets to place 75 megawatts of clean energy on closed landfills by 2020, and develop another 50 megawatts of clean energy on contaminated land by 2020. For more information on these projects, go to: <http://www.mass.gov/eea/agencies/massdep/service/energy/landfills/landfills-with-post-closure-use-permits-for-renewables.html>.

## Patrick Administration Announces \$1.27 Million in Watershed Stewardship Grants

The Patrick Administration's efforts to promote environmental stewardship continued in early November when MassDEP selected seven projects across the state slated to receive \$1.27 million in federal grants through the U.S. Environmental Protection Agency (EPA).

The projects, located in Amesbury, Greenfield, Ipswich, Leominster and Plymouth, will implement or demonstrate best management practices that diminish or work to reduce the effects of polluted stormwater runoff. A Barnstable County-based project and a separate statewide project will each develop and distribute information and materials needed to support local outreach and education efforts to address impacts of polluted stormwater.

The grant program focuses on implementation of measures to control

non-point source (NPS) pollution to surface and ground water. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters and ground waters. Common types of NPS pollution include phosphorus and nitrogen from lawn and garden fertilizers and agricultural operations, bacteria from pet waste and waterfowl, oil and grease from parking lots and roadways and sediment from construction activities and soil erosion. Unlike pollution from industrial facilities and sewage treatment plants, NPS pollution is unregulated and comes from diffuse sources.

"These grant awards allow us to continue to build strong coalitions with our regional and municipal partners to help control non-point source pollution," said MassDEP Commissioner Kenneth Kimmell. "Many of these projects also seek to educate citizens about the dangers of non-point source pollution and how to eliminate it."

These projects will help to protect Massachusetts' water resources by restoring and preserving watershed areas, constructing best management practices, demonstrating innovative technologies and educating the public on how to protect sensitive natural resources. Recipients include municipalities, county governments, regional planning agencies, environmental groups and private consultants.

The funded projects are:

- Barnstable County Department of Health and Environment - "Investigation of Passive Nitrogen Removal Strategies for Onsite Septic Systems at the



- Massachusetts Alternative Septic System Test Center" - \$85,725
- Town of Plymouth - "White Island Pond Phosphorus Inactivation Project" - \$260,232
  - Massachusetts Watershed Coalition - "Moosnoc Brook Renewal Project, Leominster" - \$229,000
  - Franklin Regional Council of Governments - "Using Low Impact Development Techniques to Manage Stormwater Runoff in Greenfield" - \$218,600
  - Town of Amesbury - "Lake Gardner and Powow River NPS Improvement Project" - \$166,960
  - Town of Ipswich - "Ipswich River Watershed Best Management Practices Implementation at Farley Brook" - \$261,600
  - Comprehensive Environmental, Inc. - "Tree Canopy Stormwater Implementation and Outreach Program, Statewide" - \$47,976

## MassDEP Completes Environmental Justice Initiative in Springfield to Ensure Compliance with Environmental Regulations

MassDEP recently announced the successful completion of an environmental compliance and enforcement initiative in the Ward 1 area of the City of Springfield that identified a number of environmental noncompliance issues, which resulted in \$40,000 in penalties levied against violators, as well as a push to return to compliance.

The initiative was conducted in conjunction with Springfield officials and representatives of the New North Citizen's Council, Inc. During the initiative, MassDEP conducted approximately 100 inspections, collected and analyzed Connecticut River water samples, installed an air quality monitor and set up cameras to watch for illegal dumping. As a result, MassDEP issued the penalties, identified potential illegal discharge points into the river, uncovered multiple environmental noncompliance issues at several facilities and provided technical assistance to small businesses.

"This initiative has helped MassDEP to develop effective strategies to strengthen community partnerships, successfully implement the Commonwealth's Environmental Justice Policy and bring sites back into compliance," said MassDEP Deputy Commissioner Gary Moran.

The Ward 1 effort included numerous neighborhood inspections of vehicle idling; inspections of properties where demolition was occurring to ensure proper asbestos abatement measures; inspections of 72 potential Brownfields properties to help identify areas for re-development; inspections of 32 registered or permitted facilities, such as auto body and auto repair shops, transit facilities, hospitals and junkyards; inspections of 14 unregistered facilities; installation of an air monitor at the Gerena School; and five rounds of bacteria sampling from seven locations along the river.

For more information on this initiative, go to: <http://www.mass.gov/eea/agencies/massdep/news/releases/environmental-justice-initiative-in-springfield-.html>.





## Hampden Country Club Penalized, Required to Restore Impacted Wetlands along Watchaug Brook

Hampden Country Club, LLC has been fined \$115,860 by MassDEP and required to restore all rivers, streams, ponds and freshwater wetlands that were altered without permits during a construction project that began in 2012.

A MassDEP inspection of the site adjacent to the Watchaug Brook confirmed that golf course reconstruction activity involved heavy equipment within the brook without a wetlands permit. The country club also failed to secure federal and state permits as required. The work resulted in significant alterations and loss of resource areas, filled in and placed segments of the brook within a pipe, filled wetlands, altered ponds and discharged muddy water into the brook. MassDEP issued a cease-and-desist order and required site stabilization to prevent further erosion.

In a settlement with MassDEP, the country club is required to fully restore all impacted water resources and restore sections of the Watchaug Brook that had been piped to a natural channel with adjacent wetlands. For more details on the case, go to: <http://www.mass.gov/eea/agencies/massdep/news/releases/hampden-country-club-assessed-115860-penalty-.html>.

## Clean Harbors and Affiliate Penalized for Hazardous Waste Violations, Must Re-train Staff in Proper Handling of Waste Material

Clean Harbors Environmental Services, Inc. of Norwell, and its affiliate, Murphy's Waste Oil Service of Woburn, have been penalized \$112,500 for allegedly transporting waste oil from unregistered facilities and submitting inaccurate reports to MassDEP. The companies must also take additional steps to ensure future compliance with environmental laws regulating the transportation of hazardous waste.

Between April 2009 and December 2011, MassDEP identified nearly 500 alleged instances where Clean Harbors and Murphy's accepted hazardous waste from facilities that did not have valid identification numbers. The companies also submitted inaccurate monthly reports that listed invalid identification numbers or numbers that did not correspond with those listed in manifests filed with MassDEP.

"Hazardous wastes are handled in Massachusetts under a cradle-to-grave system that is only as good as those companies that accurately report the wastes under their control," said MassDEP Commissioner Ken Kimmell. "From generation to disposal, companies must do the right thing or our health and the environment are threatened."



Under a settlement, the companies must pay \$75,000 of the assessed penalty, take steps to ensure that they are only accepting waste from registered facilities, and provide training to all current and future employees. For more information on this case, go to: <http://www.mass.gov/ago/news-and-updates/press-releases/2013/2013-09-20-clean-harbors-murphys-waste-complaint.html>.

## Northborough Man Sentenced for Operating an Illegal Dump

A Northborough man found guilty of operating an illegal dump was sentenced to one year in jail following his trial in Worcester Superior Court, with the sentence suspended to five years of probation. Judge Richard J. Tucker also ordered Santo Anza to remove all the solid waste from the site. Anza is also prohibited from working with any solid waste in any community for the next five years.

The case, which was successfully prosecuted by the office of Attorney General Martha Coakley, was ably assisted by the efforts of MassDEP attorney MaryJude Pigsley and staffers Andrea Briggs, Lynne Welsh, Mike Penny, Greg Root, Paul Dwiggins, Jim McQuade and Michelle Delemarre.

Judge Tucker also ordered that Anza, within 60 days, develop a plan and schedule to remove all the solid waste from the site, subject to approval by MassDEP. Anza was sentenced to serve an additional five years of probation for violations of the Massachusetts Clean Air Act.

The illegal dump unlawfully accepted more than 2 million pounds of solid waste, fouling the air and polluting the environment. Several residents from the surrounding community delivered impact statements in court describing the negative effect that Anza's illegal dump site on his Whitney Street property had on their lives, including details on how they suffered from the sights, sounds and smells of the illegal operation that emitted rotten odors.

For more information on this case, go to: <http://www.mass.gov/ago/news-and-updates/press-releases/2013/2013-08-01-santo-anza-guilty.html>.

## 'MassCleanDiesel' Program Grants Help to Eliminate 2,400 Tons of Pollutants from Refrigerated Trailers, Diesel Trucks

Twenty-five trucking and food service companies have eliminated 2,400 tons of emissions from their diesel refrigerated trailers and long-haul trucks, collectively saving \$707,623 in fuel costs, as part of the Patrick Administration's award of \$983,907 in grants from the MassCleanDiesel: Clean Markets Program.

MassDEP targeted these companies serving wholesale food markets, distribution centers and warehouses for pollution reductions because long-haul trucks and storage trailers run their diesel engines to refrigerate their products while waiting to unload at one of these types of facilities. Operating diesel



engines under these conditions can have a significant impact on the air quality in adjacent communities, and many of these markets are located in dense, urban areas.

Three different technologies are being used to address the diesel emissions, and each technology reduces particulates known as PM2.5 emissions by at least 20 percent. Collectively, this means that PM2.5 emissions will be reduced by more than nine tons each year from the 75 trucks and trailers involved in the program. PM2.5 is a pollutant that has been implicated in the state's high pediatric asthma rate and is considered a probable carcinogen. This program will also help to reduce emissions of hydrocarbon, carbon monoxide and carbon dioxide.

For more information about the grant program and the companies involved in the program, go to: <http://www.mass.gov/eea/agencies/massdep/news/releases/more-than-2400-tons-of-diesel-pollutants-eliminated-.html>.

## Massachusetts Joins Effort to Curb Air Emissions from Upwind States

Massachusetts recently joined seven other Ozone Transport Region states in petitioning the U.S. Environmental Protection Agency (EPA) to require upwind states to reduce air pollution generated within their borders, which causes public health problems in downwind states like Massachusetts.

The multi-state action is aimed at requiring nine upwind states, such as Illinois, North Carolina, Ohio and West Virginia, to be "good neighbors" by reducing air emissions that are carried by prevailing winds and contribute to the formation of ozone in states to the north and east. This effort will also level the playing field for businesses operating in the Northeast and Mid-Atlantic states. As part of the federal Clean Air Act, the EPA has 18 months to decide whether to require the nine upwind states to join the Ozone Transport Region and begin to implement air pollution reductions.

Massachusetts and its OTR partner states have already implemented significant air pollution control measures to cut ozone pollution, but the states continue to be impacted from pollution generated in upwind states, and those emissions threaten the health, economic vitality and quality of life in the downwind areas. For more information on the OTR issue, go to: <http://www.mass.gov/eea/agencies/massdep/news/releases/northeast-and-mid-atlantic-states-seek-air-pollution-curb.html>.



Printed January 2014

Kenneth Kimmell, Commissioner  
Massachusetts Department of Environmental Protection  
One Winter Street, Boston, MA 02108  
On the Web: [www.mass.gov/dep/](http://www.mass.gov/dep/)  
On Twitter: [www.twitter.com/massdep](http://www.twitter.com/massdep)  
Free e-Newsletter: [www.mass.gov/eea/agencies/massdep/news/enews/](http://www.mass.gov/eea/agencies/massdep/news/enews/)